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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/084,382      | 02/28/2002  | Tatsuya Tomaru       |                     | 8164             |

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ALEXANDRIA, VA 22314

EXAMINER

FLORES RUIZ, DELMA R

ART UNIT PAPER NUMBER

2828

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/084,382

Applicant(s)

TOMARU ET AL.

Examiner

Delma R. Flores Ruiz

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 26-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

*Paul Ip*

PAUL IP

SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 26 – 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In Claims 26 and 27 are indefinite and unclear because it is unclear from said claims what does the recited equation intends to represent, whether said equation represents an experimental numerical representation that exists in a final product form, or if said equation has any relevant utility in affecting the structural composition of the claimed apparatus.

The claims 26 – 41 refers to Real  $(1/q_7) = 0$  is satisfied. However, as best understood by the Examiner this limitation will be inoperative because e.g. division by zero is an operation for which you cannot find an answer, so it is disallowed. But no value would work for  $x$  because 0 times any number is 0. do division by zero doesn't work. For one thing, when you divide one number by another, you expect the result to be another number. Look at the sequence of numbers  $1/(1/2)$ ,  $1/(1/3)$ ,  $1/(1/4)$ , ... . Notice

that the bottoms of the fractions are  $1/2$ ,  $1/3$ ,  $1/4$ , ..., and that they're going to zero. If there's a limit to this sequence, we would take that number and call it  $1/0$ , so let's see if there is. Well, the sequence turns out to be 2, 3, 4, ..., and that goes to infinity. Since infinity isn't a real number, we don't assign any value to  $1/0$ . We just say it's undefined. But let's say we did assign a value. Let's say that infinity is a real number, and  $1/0$  is infinity. Then look at the sequence  $1/(-1/2)$ ,  $1/(-1/3)$ ,  $1/(-1/4)$ , ..., and notice again that the denominators  $-1/2$ ,  $-1/3$ ,  $-1/4$ , ..., are going to zero. So again, we would want the limit of this sequence to be  $1/0$ . But looking at the sequence, it simplifies to -2, -3, -4, and it goes to negative infinity. So which would we assign to  $1/0$ ? Negative infinity or positive infinity? Instead of just assigning one willy nilly, we say that infinity isn't a number, and that  $1/0$  is undefined. And therefore the invention will lack utility.

### ***Response to Arguments***

Applicant's arguments with respect to claims 26 – 41 have been considered but are moot in view of the new ground(s) of rejection.

**Conclusion**

.Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (703) 308-6238. The examiner can normally be reached on M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.



Delma R. Flores Ruiz

Examiner

Art Unit 2828

DRFR/PI

May 5, 2003



Paul Ip

Supervisor Patent Examiner

Art Unit 2828